DOCUMENT RESUME

ED 323 221 TM 015 424

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TITLE	Teachers' Sense of Efficacy: A Self- or Norm-Referenced Construct?
SPONS AGENCY	National Inst. of Education (ED), Washington, DC.
PUB DATE	84
CONTRACT	400-79-0075
NOTE	15p.
PUB TYPE	Journal Articles (080) -- Reports - Research/Technical (143)
JOURNAL CIT	Florida Journal of Educational Research; v26 n1 p29-41 Fall 1984
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Graduate Students; Higher Education; Measures (Individuals); Performance Factors; Psychological Characteristics; Self Concept Measures; *Self Efficacy; *Social Desirability; Teacher Attitudes; Teacher Characteristics; Teacher Education; *Teacher Effectiveness
IDENTIFIERS	Marlowe Crowne Social Desirability Scale; *Norm Referenced Construct; *Self Reference (Psychology)

ABSTRACT

Two approaches to the measurement of teacher efficacy were investigated to determine whether teachers' sense of self-efficacy is a self-referenced or norm-referenced construct. Two forms of an instrument consisting of 25 teaching problem situations were developed: one required self-referenced responses, while the other required norm-referenced responses. The two forms were randomly distributed to 65 classroom teachers enrolled in graduate classes at the University of Florida (Gainesville). In addition, two items measuring teacher efficacy from a Rand Corporation study and the Marlowe-Crowne Scale of Social Desirability were administered. Efficacy appears to be a norm-referenced, rather than a self-referenced, construct. Teachers appear to evaluate their effectiveness in terms of their performance in comparison to the performance of other teachers. Social desirability bias was a significant factor in the use of self-referenced vignettes. Three tables and one figure illustrate the study. (Author/SLD)

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TEACHERS' SENSE OF EFFICACY: A SELF- OR NORM-REFERENCED CONSTRUCT?

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TM015424

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Florida Journal of Educational Research
Fall 1984, Vol. 26, No. 1, Pp. 29-41

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ABSTRACT. Two approaches to the measurement of teacher efficacy were investigated to determine whether teachers' sense of efficacy is a self- or a norm-referenced construct. Two forms of an instrument consisting of 25 teaching problem situations were developed: one required self-referenced while the other required norm-referenced responses. The two forms were randomly distributed to 65 classroom teachers enrolled in graduate classes at the University of Florida. In addition, two items measuring teacher efficacy from a Rand Corporation study and the Marlowe-Crowne Scale of Social Desirability were administered. Efficacy appears to be a norm-referenced rather than a self-referenced construct. Social desirability bias was a significant factor in the use of self-referenced vignettes.

Several recent studies have indicated that teachers' sense of efficacy, the extent to which a teacher believes he or she has the capacity to affect student learning, is significantly related to student achievement (Armor, Conry-Oseguera, Cox, Kin, McDonnel, Pascal, Pauly, & Zellman, 1976; Ashton & Webb, 1982; Berman, McLaughlin, Bass, Pauly, & Zellman, 1977).

The work upon which this report is based was performed pursuant to Contract No. 400-79-0075 of the National Institute of Education. It does not, however, necessarily reflect the views of that agency.

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Teacher sense of efficacy was first conceptualized in two Rand Corporation evaluation studies. The 1976 Rand study of school preferred reading programs in Los Angeles, conducted by David Armor and his colleagues, reported a strong and significant relationship between teachers' sense of efficacy and increases in students' scores on standardized reading tests. The second study was an evaluation of teachers' uses of innovations and reported that "teacher sense of efficacy is positively related to the percent of project goals achieved, the amount of teacher change, improved student performance, and continuation of both project methods and materials" (Berman et al., 1977, p. 137). More recently, Ashton and Webb (1982) reported a significant relationship between teachers' sense of efficacy and student achievement on the Metropolitan Achievement Test in high school basic skills classes in mathematics and language.

In each of these studies, teacher sense of efficacy was measured by the total score obtained from two Likert scale items:

1. When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment.
   (1) Strongly agree, (2) Agree, (3) Neither agree nor disagree, (4) Disagree, (5) Strongly disagree
2. If I really try hard, I can get through to even the most difficult or unmotivated students.
   (1) Strongly agree, (2) Agree, (3) Neither agree nor disagree, (4) Disagree, (5) Strongly disagree

If, as suggested by the research, teacher efficacy is an important teacher characteristic related to student achievement, research is needed to develop a more reliable and valid measure of the construct to enable us to clarify the nature of the construct and permit us to investigate methods for influencing the factors that contribute to teacher sense of efficacy. The purpose of this study was to investigate two approaches to the measurement of teacher efficacy to determine whether teachers' sense of efficacy is a self- or norm-referenced construct. In other words,

do teachers evaluate their sense of teaching effectiveness in terms of the absolute question, "How effective am I?" or do they evaluate themselves in comparison to the performance of others, "Am I more or less effective than other teachers?" An answer to this question has important implications for the design of strategies to help teachers increase their sense of efficacy.

The Rand Conception of Teacher Efficacy

In only one of six samples has Rand Efficacy item 1 been significantly correlated with Rand Efficacy item 2 (see Table 1), leading us to conclude that two conceptually distinct dimensions of teacher efficacy are represented in the Rand two-item measure. Figure 1 presents our conception of teacher efficacy, as a hierarchically organized, multi-dimensional construct. The dimension located on the left of the model labeled "teaching efficacy" refers to the belief measured by Rand Efficacy 1, the teacher's assessment of the educability of students. The following example is provided to illustrate how teachers might come to differ on this dimension: A teacher who is convinced by Arthur Jensen's (1981) analysis of ability differences in students will tend to have a low sense of teaching efficacy, while a teacher convinced of Benjamin Bloom's (1978) position on student learning ability will have a high sense of teaching efficacy. These expectation differences will be reflected in teachers' specific expectations for specific students in specific situations. On the opposite side of the model is "personal efficacy," the belief measured by Rand Efficacy 2, the teacher's sense of personal competence as a teacher. Finally, the most specific level of conceptualization, and, consequently, the best predictor of teacher behavior is the teacher's sense of "personal teaching efficacy," representing an integration of personal efficacy and teaching efficacy. It is important to keep these dimensions separate conceptually, because it is likely that the most appropriate teacher change strategy will depend on the origin of the sense of inefficacy. A teacher convinced of her own ability to teach but doubtful of her

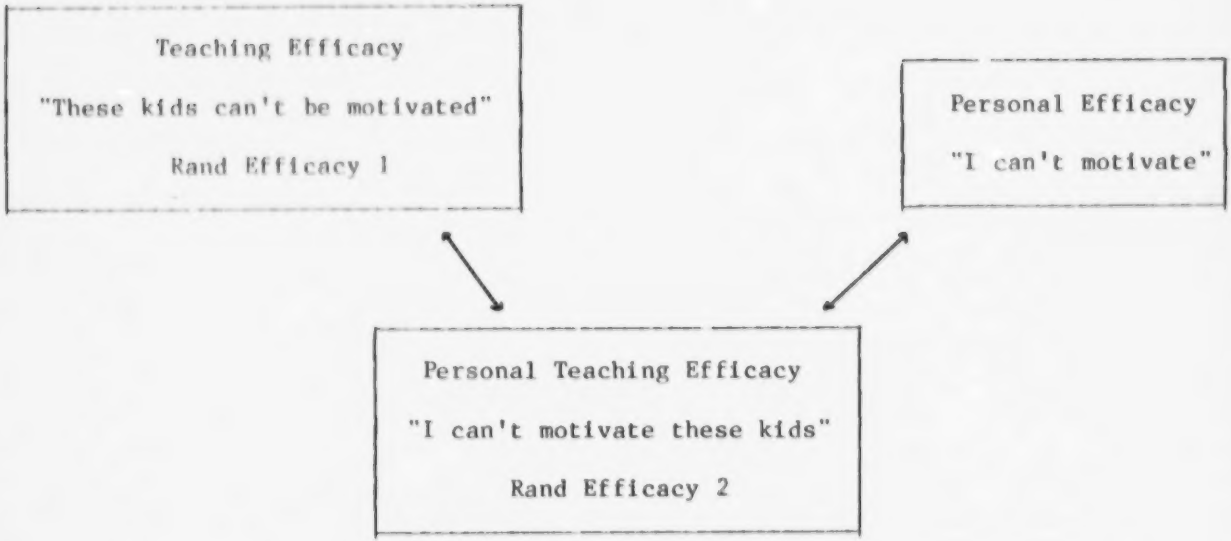

Figure 1. Teachers' Sense of Efficacy

students' ability to learn would require a different intervention from a teacher who is convinced of her students' ability to learn but doubtful of her own competence as a teacher. In simple terms, personal teaching efficacy is reflected in the teacher statement, "I can't motivate these kids." However, the statement may be attributable to teacher sense of teaching efficacy, that is, the belief that "these kids can't be motivated," or teacher sense of personal efficacy, that is, the belief that "I personally can't motivate."

A Broader Conceptualization of Efficacy

In order to overcome the limitations of the two-item Rand efficacy measure, Ashton, Olejnik, Crocker, and McAuliffe (1982) developed a longer instrument, based on a broader conceptualization of efficacy. Teachers' sense of efficacy was defined to encompass teachers' confidence in their ability to carry out all the responsibilities of teaching. The Rand questions focus on the teacher's belief in his/her ability to "get through" to students despite motivational or environmental obstacles. To determine if the more comprehensive conceptualization of efficacy is useful, a 50-item questionnaire was constructed on the basis of teachers' responses to a Teaching Incidents Essay, which asked them to describe their most and least effective teaching experiences. This instrument, the Personal Teaching Efficacy Vignette Scale, consists of 50 descriptions of problem situations concerning various dimensions of teaching that include motivation, discipline, academic instruction, planning, evaluation, and work with parents. It was hypothesized that situational vignettes would elicit more teacher variability since they provide a concrete referent that teachers have probably confronted in some form in their teaching experience. The vignettes are inherently difficult so that a teacher need not feel pressure to report that each situation could be handled expertly. An example of an efficacy vignette follows:

> Your school district has adopted a self-paced, instructional program for remedial students in

Table 1

Correlation of Rand Efficacy 1 with
Rand Efficacy 2 in Six Samples
Ashton, Olejnik, Crocker, & McAuliffe (1982)

Sample	r	p
Middle School Teachers (N=48)	.26	.07
High School Basic Skills Teachers (N=37)	.36	.05
Elementary Teachers (N=45)	.15	.32
Middle School Teachers (N=45)	.05	.75
High School Teachers (N=62)	.03	.81
Undergraduate Teacher Education Majors (N=61)	.20	.13

your area. How effective would you be in keeping a group of remedial students on task and engaged in meaningful learning while using these materials?

Teachers respond to each of the vignettes in terms of how effective they feel in handling the situation. The rating scale used by Ashton et al. (1982) was self-referenced, that is, an absolute response format was used with responses ranging from extremely ineffective (1), through moderately effective (4), to extremely effective (7).

It has been argued, however, that individuals can respond more accurately when asked to make a comparative judgment, since most people are not accustomed to making absolute judgments in daily life (Nunnally, 1978). Thus, a rating scale using a norm-referenced or comparative format, with responses ranging from much less effective than most teachers (1), through about as effective as other teachers

(4), to much more effective than most teachers (7), should result in a more valid efficacy rating. Because the vignette measure is a self-report instrument, it is likely to be subject to social desirability bias, the tendency for people to say good rather than bad things about themselves. According to Nunnally (1978), much of the variance on self-inventory measures can be explained by social desirability. In a pilot study using the self-referenced response mode with the vignette instrument, we obtained a correlation of .46 ($p < .05$) between the vignette score and a measure of social desirability (the Marlowe-Crowne). The use of a norm or comparative approach to efficacy should aid individuals to judge their own effectiveness more accurately, reducing the influence of social desirability. It was expected, therefore, that the vignette form using this format would not show a significant correlation with a measure of social desirability.

Data Source

Data for this study came from 65 graduate students who had at least one year of full-time teaching experience and were attending education classes at the University of Florida.

Method

Twenty-five items that had a high correlation with the total vignette score were selected from the original 50-item measure. Sample items taken from the vignette measure are illustrated in Table 2. Two forms of the vignette measure were prepared, identical except that the self-referenced approach was used on one form while the norm-referenced approach was used on the other. Forms were randomly distributed within classes of subjects. In addition to the vignette measure the two Rand items and the Marlowe-Crowne Scale of Social Desirability were administered.

Results

Descriptive statistics of the teachers' scores on the measurement instruments are presented in Table 3.

Table 2

Sample Items From The Vignette Measure

Read each situation carefully. Consider similar situations from your own teaching experiences. Indicate how effective you feel you would be in handling each situation by circling the appropriate number.

1	2	3	4	5	6	7
much less effective than most teachers			about as effective as other teachers			much more effective than most teachers

1. You are holding a parent conference with Ms. B., mother of Nicki. Nicki has been an average student until this year but her grades are sliding. Ms. B. blames you for Nicki's declining interest in school. How effective would you be in dealing with Ms. B.'s criticism and in settling this conflict?

1	2	3	4	5	6	7
much less effective than most teachers			about as effective as other teachers			much more effective than most teachers

Table 2
(continued)

2. One of your major objectives for the unit you are currently teaching is to develop your students' ability to solve problems and think creatively. How effective do you feel you would be in achieving this objective?

1	2	3	4	5	6	7
much less effective than most teachers			about as effective as other teachers			much more effective than most teachers

3. One of your students misbehaves frequently in your class and is often disruptive and hostile. Today in class he began roughhousing with a friend in the back of the class. You tell him firmly to take his seat and quiet down. He turns away from you, says something in a belligerent tone that you can't hear and swaggers to his seat. The class laughs and then looks to see what you are going to do. How effective would you be in responding to this student in a way that would win the respect of the class?

1	2	3	4	5	6	7
much less effective than most teachers			about as effective as other teachers			much more effective than most teachers

Table 2
(continued)

4. You have prepared an important lesson that requires the use of a slide projector. Just after you have begun the lesson the projector breaks down. Because this is a short school week with a full calendar, you cannot postpone this lesson. You must continue without the instructional aide. How effective would you be in presenting a worthwhile lesson in this situation?

1	2	3	4	5	6	7
much less effective than most teachers			about as effective as other teachers			much more effective than most teachers

Table 3

Means and Standard Deviations
for Efficacy and Marlowe-Crowne Scales

Form	Scale	Mean	Standard Deviation
Norm	Rand Efficacy 1	3.94	.93
	Rand Efficacy 2	3.77	.96
	Rand Total Score	7.71	1.53
	Efficacy Vignettes	133.62	18.42
	Marlowe-Crowne	17.19	5.87
Self	Rand Efficacy 1	3.87	.85
	Rand Efficacy 2	3.48	1.03
	Rand Total Score	7.35	1.47
	Efficacy Vignettes	131.16	19.00
	Marlowe-Crowne	15.81	6.05

Means for the self- and norm-referenced measures were not significantly different at the .05 level. Internal consistency was high for both the self- ($r\alpha = .95$) and norm-referenced ($r\alpha = .94$) instruments. However, the norm-referenced approach was significantly correlated with the total efficacy score as measured by the Rand items ($r = .35$, $p < .05$), while the self-referenced vignettes were not significantly correlated with either Rand item or with the total score for the Rand items ($r = .09$, $p > .05$).

The correlation between the Marlowe-Crowne Scale of Social Desirability and the self-referenced vignettes was significant ($r = .35$, $p < .05$), while the correlation between the Marlowe-Crowne and the norm-referenced vignettes was essentially zero ($r = .004$, $p > .05$).

Conclusions

Teachers appear to conceive of their efficacy in terms of a norm rather than a self-referenced construct, since the norm-referenced vignettes

correlated significantly with the criterion of the Rand items while the self-referenced vignettes showed no significant correlation. Also, social desirability bias was a significant factor in the use of the self-referenced vignettes but not with the norm-referenced vignettes.

This study suggests that teachers evaluate their effectiveness in terms of their performance in comparison to the performance of other teachers. Research has indicated that teachers have very little information regarding the performance of other teachers, beyond the tales carried by students and those told in the teachers' lounge. Thus, they are likely to base their own self-evaluation on a rather limited and biased perception of the effectiveness of others. This practice may contribute to the fragile and uncertain sense of competence characteristic of many teachers. Effective approaches to increasing teachers' sense of efficacy may involve providing teachers with opportunities to share their feelings about their effectiveness with other teachers and to observe each other's teaching practices. A cooperative approach to developing their efficacy may be helpful.

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